Name _____ Pd _____ Date _____

FORCE, MASS, AND WEIGHT CHALLENGE

Directions: Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

_____ **1.** Newton

_____ **2.** Force

_____ **3.** Unbalanced forces

_____ **4.** Balanced forces

_____ **5.** Net force

_____ **6.** Friction

_____ **7.** Rolling friction

_____ **8.** Sliding friction

_____ **9.** Fluid friction

_____ **10.** Weight

_____ **11.** Free fall

_____ **12.** Gravity

_____ 13. Air Resistance

a. the force that accelerates objects towards Earth

b. the kind of friction that exists between oil and a door hinge

c. the general term for the force that one surface exerts on another when they rub against each other

d. the kind of friction that slows a falling object

e. the state that exists when the only force acting on an object is gravity

f. the kind of friction that results when you rub sandpaper against wood

g. the kind of friction that results when a wheel turns on a surface

h. a measure of the force of gravity on an object

i. the SI unit for force

j. sum of all forces acting on an object

k. push or pull

l. can change an object's motion

m. will not change an object's motion

Ms. Reed, Mrs. Boyd, Ms. Raman and some friends have challenged Mr. Bowers, Mr. Reed, and Mr. Lubin and some of their friends to a tug-o-war contest. The picture below shows their contest. Using the picture, calculate the **net force**, and **explain the results** of the contest. Is this an example of a **balanced or unbalanced** force?